

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		Page 1 of 4 Pages		
2. AMENDMENT/MODIFICATION NO. 002		3. EFFECTIVE DATE February 24, 2000		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY Bureau of Reclamation Lower Colorado Region P.O. Box 61470 Boulder City NV 89006-1470		CODE LC-3112 http://www.lc.usbr.gov/~g3100/		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and ZIP code)				(T)		9A. AMENDMENT OF SOLICITATION NO. 00-SQ-30-0024	
				T		9B. DATED (SEE ITEM 11) February 14, 2000	
						10A. MODIFICATION OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [] is extended, ☒ is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
(a) By completing Items 8 and 15, and returning 1 copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. **FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.** If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (if required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(T)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT/ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. **IMPORTANT:** Contractor [] is not [] is required to sign and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible)

Project Title: Recondition Generator Heat Exchangers, Hoover Dam Powerplant, Boulder Canyon Project, Arizona - Nevada

Purpose of Amendment: The purpose of this amendment is to make minor changes to a specifications paragraph.

Receipt of Quotes: The date and time for receipt of quotes remain March 3, 2000 at 4:00 p.m., Pacific Standard Time. The place for receipt of quotes remains the Bureau of Reclamation, Lower Colorado Regional Office, Boulder City, Nevada (see block 9 of the "Solicitation/Contract/Order for Commercial Items," Standard Form 1449).

Acknowledgment: See block 11 above regarding how to acknowledge this amendment. The acknowledgment must be received at the place designated for receipt of quotes (see block 9 of the "Solicitation/Contract/Order for Commercial Items," Standard Form 1449).

Quote Modification: See block 11 above if you have submitted your quote and now desire to modify it or withdraw it.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	

Description of the Changes:

1. In Part III - Statement of Work:

a. Page III - 11, paragraph C.4.2.b.(2): Added the phrase "with one end belled" to the third line, and changed the specification for the installed outside diameter of the cooling fins from 1 inch to 1 1/8 inch.

Instructions:

Remove

III - 10 and III - 11

Replace with Revised

III - 10 and III - 11

SUBSECTION C.4 - RECONDITION GENERATOR HEAT EXCHANGERS

C.4.1. Recondition Generator Heat Exchangers, General

The Bureau of Reclamation, Lower Colorado Dams Facilities Office, Hoover Dam Powerplant, has a requirement for the reconditioning of six (6) generator heat exchangers. These six (6) heat exchangers have been removed from various generators and are presently in storage in the Central Warehouse yard, approximately 1.5 miles west of Hoover Dam, Nevada. Large transportation vehicles can easily access this storage area. Upon request, the Government's forklift and/or crane will be made available with an operator for loading the heat exchangers onto a transportation vehicle. The Central Warehouse facility hours are 6:30 am to 5:00 pm (Pacific Standard Time), Monday through Thursday.

The Contractor shall transport the six (6) heat exchangers to its facility, dismantle and replace all cooling tubes and fins, replace tube sheets (G.E. coolers only), clean the heat exchanger water boxes and cover plates and restore to original dimensions, reassemble, and return the units to Hoover Dam's Central Warehouse. Prior to reassembly, the Contractor shall remove existing paint from the exterior portion of the heat exchanger water boxes and cover plates and from all structural support framing and bracing. The Contractor shall apply new coats of paint as specified for the exterior of the heat exchanger water boxes and cover plates and for all structural support framing and bracing. Prior to final acceptance by the Bureau of Reclamation, the reconditioned heat exchangers shall satisfactorily pass the pressure tests in accordance with the requirements stated below.

The Contractor shall be responsible for packing, loading, and securing the generator heat exchangers prior to removal from the storage site. In addition, the Contractor shall be responsible for any damage that may occur in the handling and transportation of the heat exchangers. These requirements shall be in accordance with clause WBR 1452.247-900 Preparation for Shipment and Handling.

C.4.2. Heat Exchangers

a. General.--Two (2) of the heat exchangers are from generators that were manufactured and installed by Westinghouse Electric and Manufacturing Company. Four (4) heat exchangers are from generators that were manufactured and installed by General Electric. The overall size of each heat exchanger, surface area, weight, and cooling capacities are comparable. The most significant differences between the two manufacturers are in the location of the inlet and outlet flanges for the connecting cooling water pipes and in the size (diameter) of the copper-finned cooling tubes. At present, the Westinghouse heat exchangers are interchangeable with other Westinghouse units and the same applies for the G.E. heat exchangers.

The normal operating temperature of the generator stator windings is 60 to 75 degrees Centigrade.

b. Technical Data.-

(1) Westinghouse Heat Exchangers.--These existing generator heat exchangers are Westinghouse Surface Air Coolers, 2500 sq. ft. surface area. These heat exchangers are six (6) pass, counter flow, straight tubes, 138 tubes, 8' 5-3/4" end to end (8' 4" exposed length) with an outside diameter of 1.0 inches, and a minimum wall thickness of 0.049 inches. The cooling fins are approximately 0.012 inches thick and have an installed outside diameter of 1-3/4 inches, with seven (7) fins per inch of tube length. The original cooling tubes appear to be Admiralty Brass, ASTM B111, C44300, tension-helical wound copper finned solder dipped tubing. The tube sheets are Naval Brass plate. See attached outline Drawing No. 6-H-521 for dimensions.

(2) General Electric Heat Exchangers.--These existing generator heat exchangers are G.E. Surface Air Coolers, catalog No. 8669436 G-2, Type SF. These heat exchangers are six (6) pass, counter flow, straight tubes with one end belled, 366 tubes, 9' 6" end to end (9' 4" exposed length) with an outside diameter of 0.625 inches, and a minimum wall thickness of 0.049 inches. The cooling fins are approximately 0.012 inches thick and have an installed outside diameter of $\pm 1 \frac{1}{8}$ inch, with eight (8) fins per inch of tube length. The original cooling tubes are Cupro-nickel (70% Cu, 30% Ni), ASTM B111, with copper fins. The water boxes and heads are a cast iron material with gasketed integral baffles. The tube sheets are Naval Brass plate. See attached outline Drawing No. T-4936503 for dimensions.

c. Materials.--The Contractor shall furnish and install new tube sheets for the General Electric coolers only. The new tube sheets shall be cut to size and the tube holes drilled and reamed. The new tube sheets shall be Naval brass plate.

The Contractor shall furnish and install new heat exchanger tubes in six (6) heat exchangers for Hoover Dam Powerplant. Regardless of the metallurgical composition of the original tubing (i.e. Copper, Cupro-nickel, or Admiralty brass), the new cooling tubes shall be Admiralty brass, ASTM B111-95, C44300. The tubes shall be attached to the tube sheets in a manner as to be free from any leakage. Each tube shall be provided with copper fins, 0.015 inch thick. The copper fins shall be tension-wound and fastened securely to the tube by solder dipping. The molten solder shall be a lead-free material.

Replacement tubes shall be of similar design, type, size, and number of fins per inch so that the cooling surface areas remain essentially the same as the original heat exchangers.

Prior to ordering the tubing from a supplier, it shall be the responsibility of the Contractor to verify the exact length necessary, the portion of tube to be finned, and the location of the tube support collars.

Prior to placing the fins on the tubes, the supplier shall perform a hydrostatic pressure test on each tube to a pressure of 200 psi. Tubes that leak or can not maintain the pressure will be rejected. In accordance with Paragraph C.1.3. (Submittal Requirements) and Table 1A (List of Submittals), the Contractor shall submit documentation and proof that the supplier has